

REMARKS

Claims 22 – 28 have been examined. Claims 22 – 27 stand rejected under 35 U.S.C. §102(e) as anticipated by U.S. Pat. No. 5,788,778 (“Shang”) and Claim 28 stands rejected under 35 U.S.C. §103(a) as unpatentable over Shang. The rejections are respectfully traversed.

In articulating the basis for rejection of independent Claim 22, the Office Action (1) identifies the plasma formed “remotely with respect to said chamber” as the plasma formed from precursor gas 44 in remote activation chamber 46 of Shang; and (2) identifies the “nonplasma diluent gas flow” as being provided from one of gas supplies 32 through flow control mechanism 34 of Shang (Office Action, p. 3). The gas supplies 32 are disclosed as “containing the gases that are used during deposition” (Shang, Col. 4, ll. 21 – 22) and are distinguished from a “second gas supply system [that] supplies gas that is used to clean the inside of the chamber after a sequence of deposition runs” (*id.*, Col. 4, ll. 33 – 35).

The only disclosure of a diluent gas flow in Shang appears to be the disclosure of an optional “source of a minor carrier gas 52 that is connected to the remote activation chamber through another valve and flow control mechanism 53” (*id.*, Col. 4, ll. 64 – 66). When used, such a flow is mixed with reactive radicals in remote activation chamber 46, not “at a mixing location downstream of a location of forming said flow of said reactive radicals” as recited in Claim 22. A definition of “diluent gas” is provided in the application at p. 21, ll. 16 – 27.

Applicants disagree with the suggestion in the Office Action that Shang teaches providing a flow of nonplasma diluent gas from gas supplies 32 that mixes with reactive radicals at the recited location. There is no teaching or suggestion in Shang that gas supplies 32 include a diluent gas. There is moreover no teaching or suggestion in Shang that a diluent gas be mixed with the flow of reactive radicals provided from remote activation chamber 46 in anything but the manner it explicitly provides, i.e. by performing such a mixing in the remote activation chamber 46 with a flow of gas 52. The suggestion in the Office Action of an alternative mechanism is conjecture not drawn from the explicit or implicit teachings of Shang.

Since an element of independent Claim 22 is not disclosed in the cited art, that claim is believed to be patentable over that art. The various dependent claims are similarly believed to be patentable by virtue of their dependence from patentable claims.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

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